

citizen science

the direct participation of the public in scientific research

Kevin Schawinski

Institute for Particle Physics
and Astrophysics

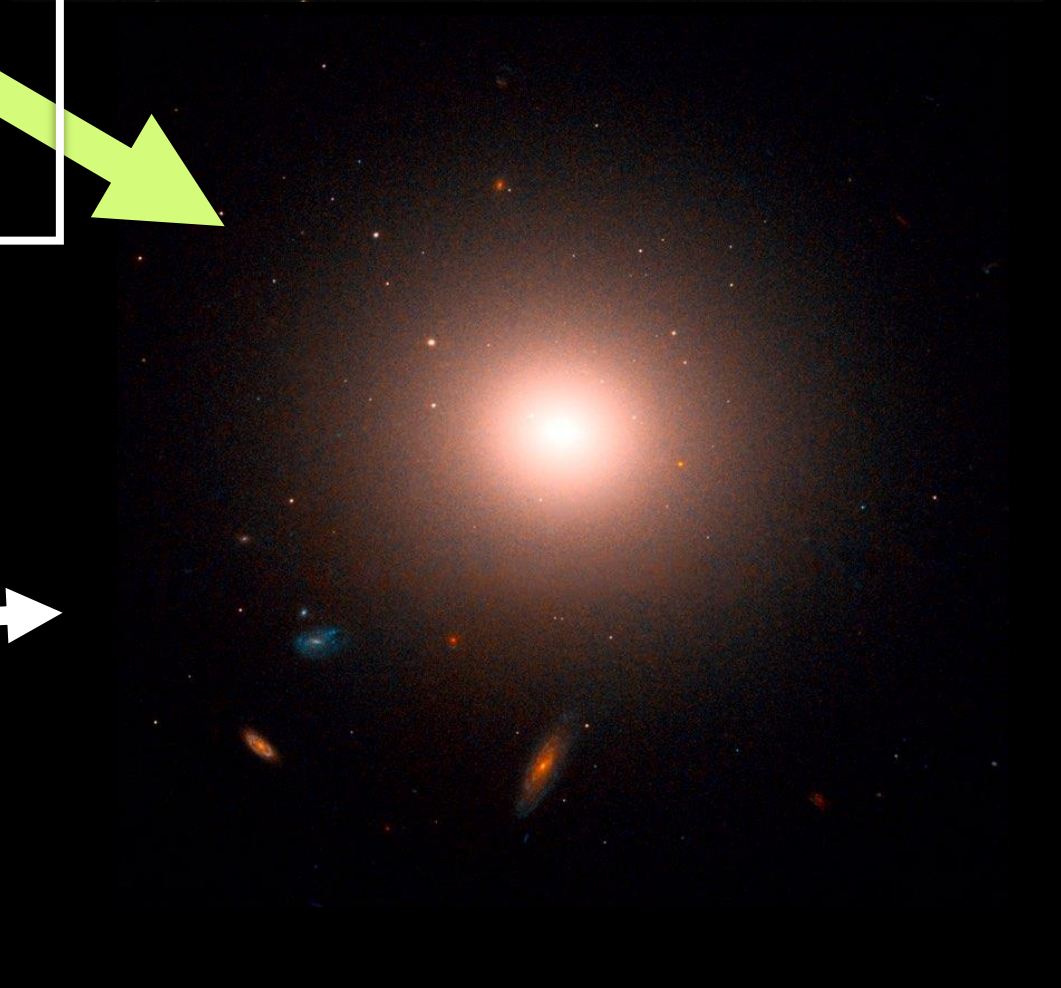
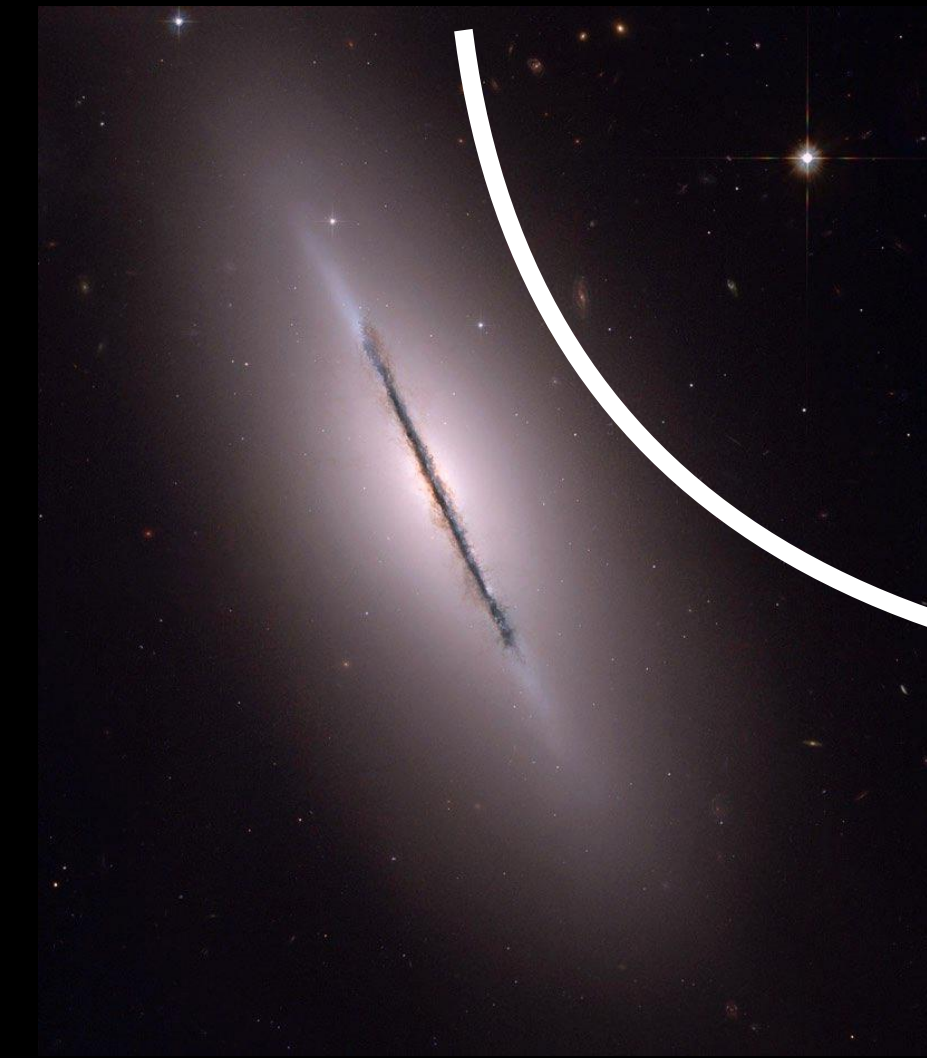
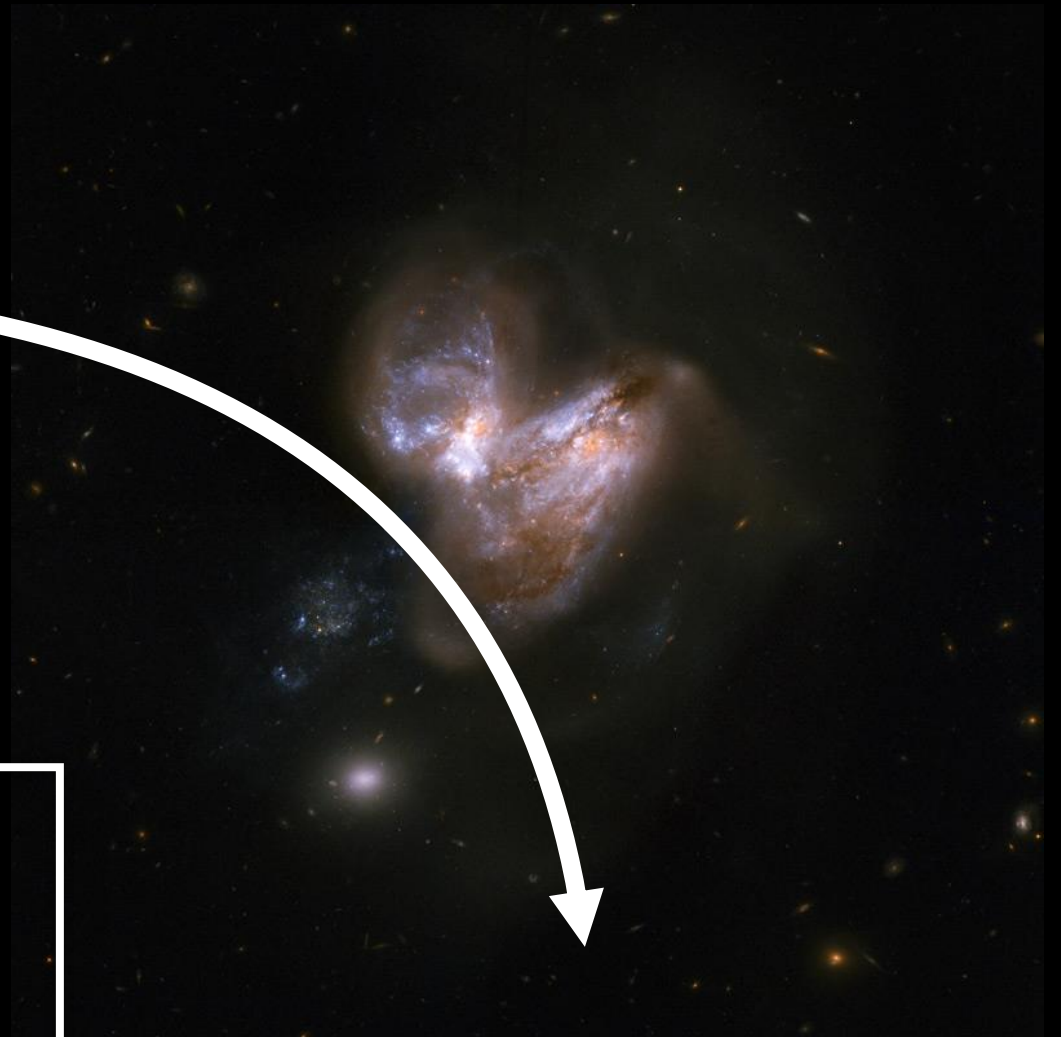
ETH Zurich



@kevinschawinski



ETH black hole group
Grup Bøegg Negar Politecnic da Zürich







Chris Lintott

Key research facility:

The Royal Oak pub, ~150m from the Oxford astrophysics building

GALAXY ZOO.org

[Welcome](#)[Home](#)[The Science](#)[How to Take Part](#)[Galaxy Analysis](#)[Forum](#)[Press](#)[Blog](#)[FAQ](#)[Links](#)[Contact Us](#)[Login](#)[Register](#)

Dear Galaxy Zoo users,

Thanks for making Galaxy Zoo such a success! THIS SITE IS NOW ARCHIVED; go [here](#) for the latest Galaxy Zoo project.

With your help, we collected millions of classifications, and have done more and better science faster than we ever believed possible. The first papers and follow-up observations are complete, and you can follow our progress on the [BLOG](#) and [FORUM](#).

This site is still alive for nostalgia's sake, but your classifications will not form part of the public data release. But we need you now more than ever! Galaxy Zoo 2 - which asks for more detailed classifications of roughly 250,000 of the brightest galaxies in our sample is now live. So go [here](#) to get classifying.

[Log In](#)

User Name:

Password:

☐ Remember me next time.[Log In](#)[Register](#)[Forgot Password](#)

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The Science

How to Take Part

Galaxy Analysis

Forum

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Blog

FAQ

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Contact Us

Login

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Galaxy Tutorial

Galaxy Analysis

Galaxy Zoo - Thank You

Galaxy Analysis

Welcome to Galaxy Zoo's view of the Universe. If you're here you should already have seen the [Tutorial](#), but feel free to go and remind yourself. There's no need to agonise for too long over any one image, just make your best guess in each case.



Galaxy Ref:
587741816777277606

Choose the Galaxy Profile by clicking the buttons below

CLOCK

ANTI

EDGE ON / UNCLEAR

ELLIPTICAL GALAXY

STAR / DON'T KNOW

HERSHEL

Show Grid Overlay on the next Image

Sloan Digital Sky Survey: $\sim 1/4$ of the sky, ~ 1 million galaxies

Launch day: 12th July 2007

MOST POPULAR STORIES NOW

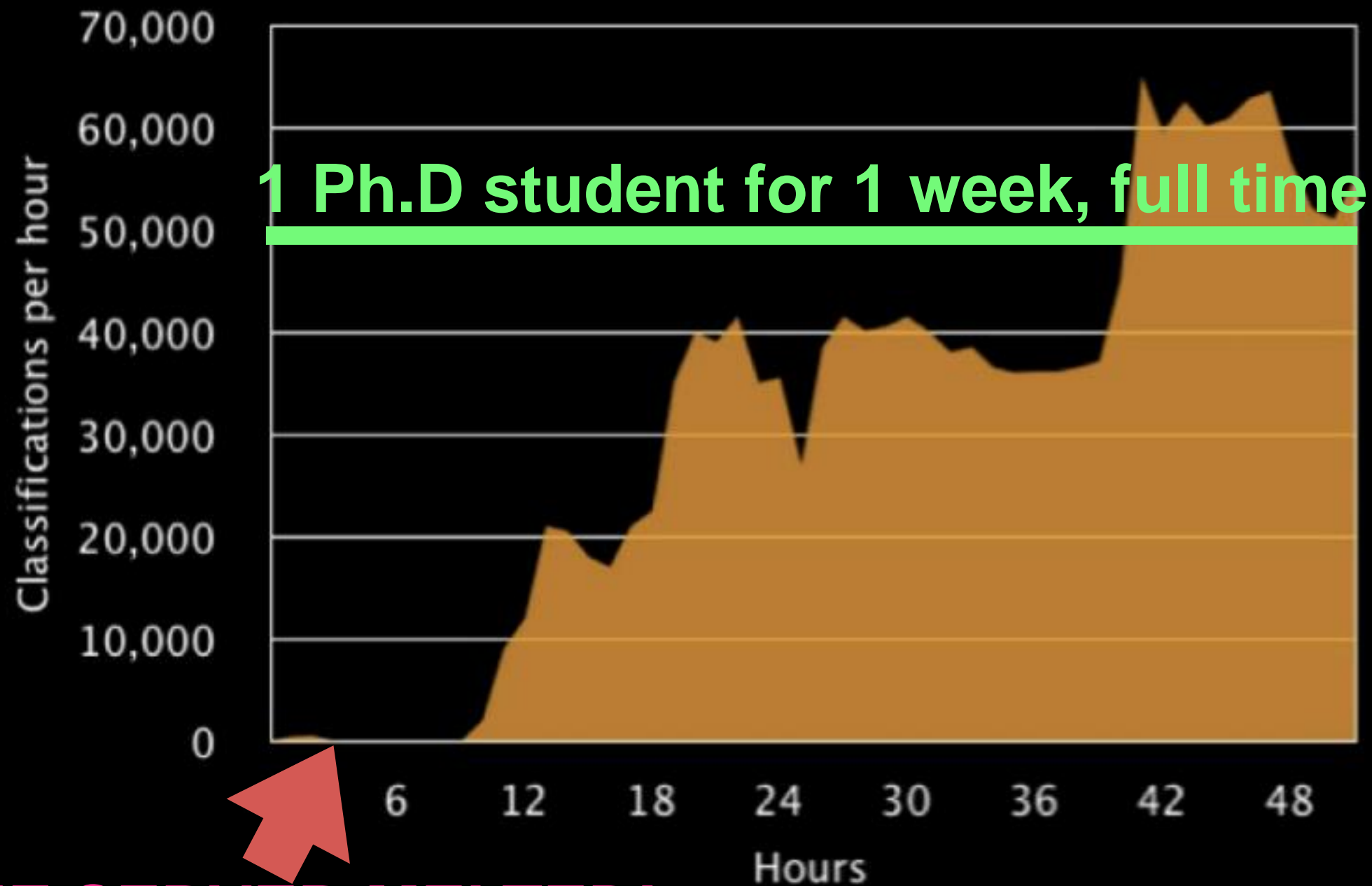
MOST E-MAILED

MOST READ

- 1 Man flies to wedding a year early
- 2 Scientists seek galaxy hunt help
- 3 'No Sun link' to climate change
- 4 Garlic 'may cut cow flatulence'
- 5 Moles 'good indicator to ageing'

► Most popular now, in detail

The first few days....



THE SERVER MELTED!

wisdom of the crowd
(1 million galaxies classified by 70 people, each)

early, blue

early, green

early, red

indeterminate, blue

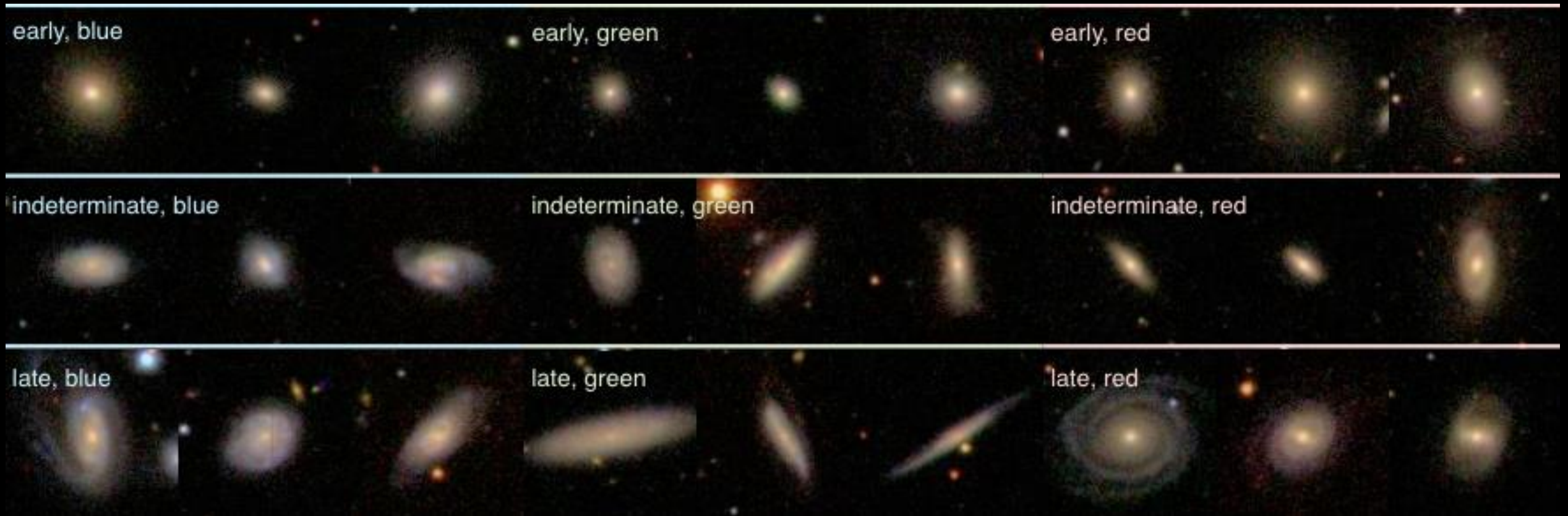
indeterminate, green

indeterminate, red

late, blue

late, green

late, red





“unknown unknowns”



DR10

Explore Home

Search

Imaging Summary

FITS

Finding chart

Other Observations

Neighbors

Galaxy Zoo

PhotoTag

Field

Frame

PhotoObj

PhotoZ

PhotoZRF

Cross-ID

Spec Summary

FITS

Plate

All Spectra

SpecObj

sppLines

galSpecLine

galSpecIndx

galSpecInfo

Fit Parameters

sppParams

StarformingPort

PassivePort

emissionLinesPort

PCAWiscBC03

PCAWiscM11

FSPSGranEarlyDust

FSPSGranEarlyNoDust

FSPSGranWideDust

FSPSGranWideNoDust

NED search

SIMBAD search

ADS search

Notes

Save in Notes

Show Notes

Print

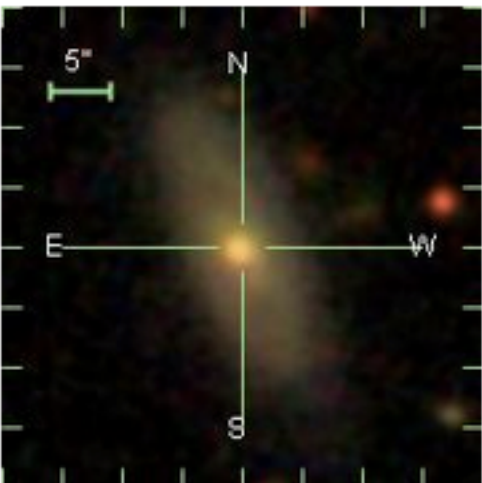
SDSS J085049.48+114226.3

Look up common name

Type		SDSS Object ID	
GALAXY		1237670964308476440	
RA, Dec		Galactic Coordinates (<i>l</i> , <i>b</i>)	
Decimal	Sexagesimal	<i>l</i>	<i>b</i>
132.70619, 11.70731	08:50:49.48, +11:42:26.31	215.73780	31.75177

Imaging

Flags ☒ DEBLENDED_AT_EDGE STATIONARY BINNED1 INTERP CHILD EDGE



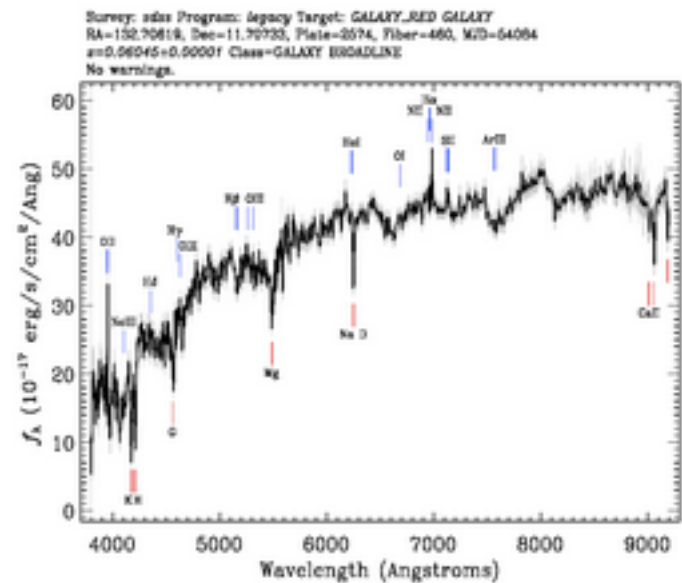
Magnitudes				
u	g	r	i	z
18.36	16.52	15.67	15.23	14.88
Magnitude uncertainties				
err_u	err_g	err_r	err_i	err_z
0.03	0.00	0.00	0.00	0.01

Image MJD	mode	Other observations	parentID	nChild	extinction_r	PetroRad_r (arcmin)
53710	PRIMARY	2	1237670964308476439	0	0.08	9.69 ± 1.060
photoZ (KD-tree method)		photoZ (RF method)		Galaxy Zoo 1 morphology		
0.057 ± 0.0175		0.059 ± 0.0160		Spiral		

Cross-identifications [Show](#)

Optical Spectra SpecObjID= 2898192872568285184

[Interactive spectrum](#)



Spectrograph			SDSS
class	Redshift (z)		Redshift error
GALAXY	0.060		0.00001
Redshift flags			OK
plate	mjd	fiberId	
2574	54084	460	
survey	programname	primary	Other spec
sdss	legacy	1	0
sourcetype	Velocity dispersion (km/s)		veldisp_error
GALAXY	166.80		5.440
targeting_flags			
GALAXY GALAXY_RED			

serendipity

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[Galaxy Analysis](#)
[Galaxy Zoo - Thank You](#)

Galaxy Analysis

Welcome to Galaxy Zoo's view of the Universe. If you're here you should already have seen the [Tutorial](#), but feel free to go and remind yourself. There's no need to agonise for too long over any one image, just make your best guess in each case.

A photograph of a young woman with long brown hair, wearing a grey cardigan over a yellow t-shirt, sitting at a wooden desk. She is looking at a laptop screen which displays the Galaxy Zoo interface. A large Apple iMac monitor is also on the desk to her left. The background is a plain, light-colored wall.

people organize themselves

The Hanny's Voorwerp.

http://www.galaxyzooforum.org/index.php?topic=3802.0

Google Maps Yale Mail Wikipedia astro-ph NASA ADS MNRAS GZ Forum GZ Blog GZ wiki Rumor Wiki Rumblegumption News (601) Popular AC LIVE!

Galaxy Zoo Forum > The objects > Weird and wonderful > The Hanny's Voorwerp.


Pages: [1] 2 3 ... 28

« previous next »


REPLY | NOTIFY | MARK UNREAD | SEND THIS TOPIC | PRINT


Author Topic: The Hanny's Voorwerp. (Read 28012 times)

Hanny
Global Moderator
Hero Member
★★★★★
Posts: 11960



"Voorwerp kid"




 **The Hanny's Voorwerp.**
« on: August 13, 2007, 11:16:40 AM »


Quote Modify Remove Split Topic

What's the blue stuff below?

Anyone?

<http://cas.sdss.org/astro/en/tools/chart/chart.asp?ra=145.2671505&dec=34.73290502>




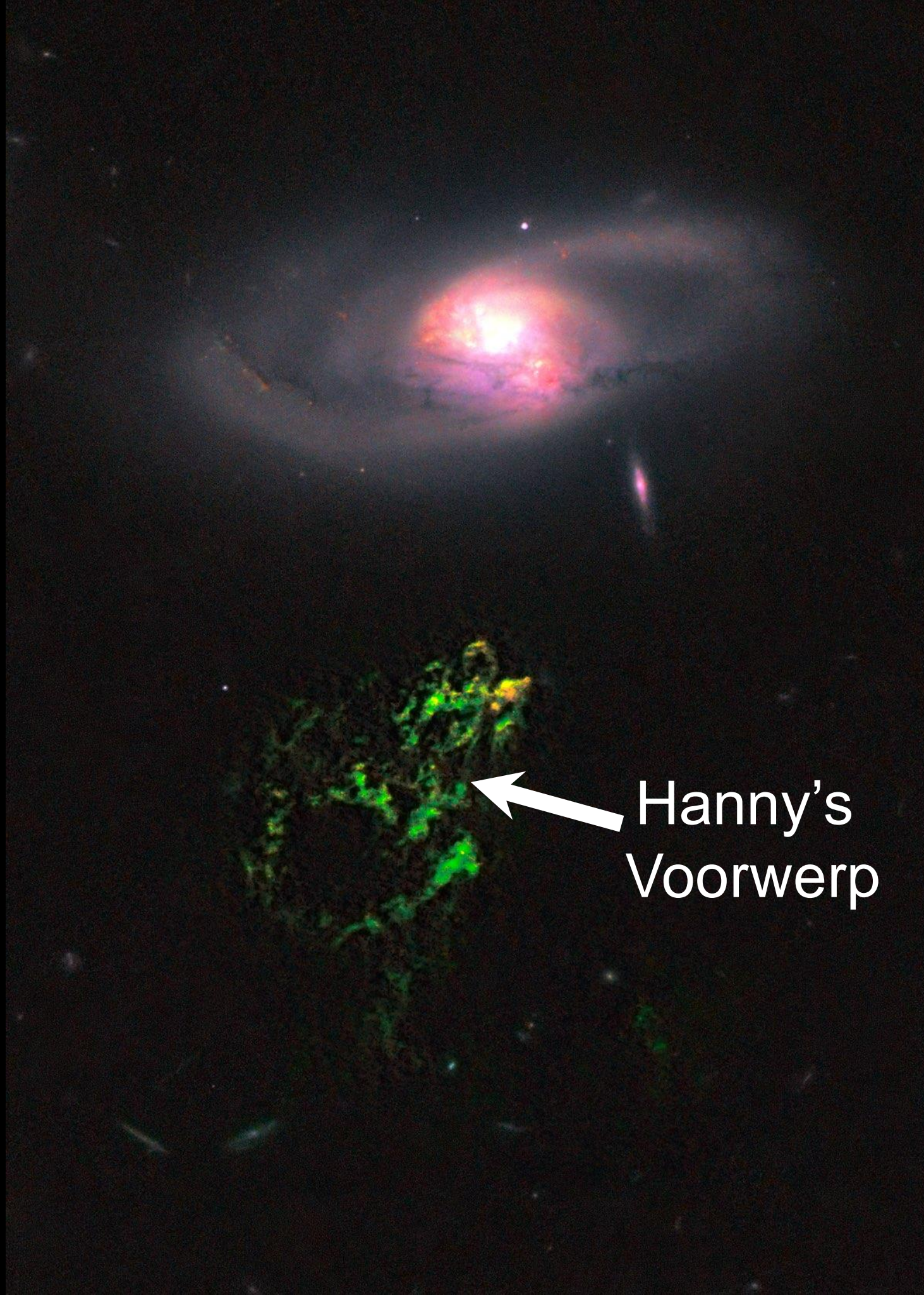
 [gCAW18XSF.jpg](#) (22.43 KB, 512x512 - viewed 411 times.)

« Last Edit: February 08, 2008, 01:57:07 PM by Hanny »

[Report to moderator](#) 84.25.33.208 (?)

www.hannysvoorwerp.com





Hanny's
Voorwerp

we can do (traditional) science!

SPACE

- Galaxy Zoo (53)
- Moon Zoo
- Solar Stormwatch (4)
- Galaxy Zoo - Mergers
- Galaxy Zoo - Supernova (5)
- Planet Hunters (9)
- Milky Way Project (3)
- Ice Hunters (1)
- Andromeda Project
- Planet Four
- Space Warps
- Radio Galaxy Zoo
- Stardate M83
- Disk Detective
- Sunspotter
- Asteroid Zoo

CLIMATE

- Old Weather
- Cyclone Center (1)

HUMANITIES

- Ancient Lives (1)
- Operation War Diary

NATURE

- Whale FM (2)
- Seafloor Explorer
- Bat Detective
- Snapshot Serengeti
- Notes from Nature
- Plankton Portal
- Condor Watch
- Floating Forests
- Penguin Watch
- Chicago Wildlife Watch

BIOLOGY

- Cell Slider
- Worm Watch Lab

PHYSICS

- Higgs Hunters

META

- Zooniverse Studies (6)

SHOW ALL



Validation of a priori CME arrival predictions made using real-time heliospheric imager observations, Tucker-Hood+ 2015. [Available here](#)



Cyclone Center: Can Citizen Scientists Improve Tropical Cyclone Intensity Records?, Hennon+ 2014. [Available here](#)



Classification of large acoustic datasets using machine learning and crowdsourcing: Application to whale calls, Shamir+ 2014. [Available here](#)



The Milky Way Project: Leveraging Citizen Science and Machine Learning to Detect Interstellar Bubbles, Beaumont+ 2014. [Available here](#)



GALEX J194419.33+491257.0: An unusually active SU UMa-type dwarf nova with a very short orbital period in the Kepler data, Kato & Osaki 2014. [Available here](#)



Planet Hunters. VI. An Independent Characterization of KOI-351 and Several Long Period Planet Candidates from the Kepler Archival Data, Schmitt+ 2014. [Available here](#)



Planet Hunters. VII. Discovery of a New Low-mass, Low-density Planet (PH3 C) Orbiting Kepler-289 with Mass Measurements of Two Additional Planets (PH3 B and D), Schmitt+ 2014. [Available here](#)



The Solar Stormwatch CME catalogue: Results from the first space weather citizen science project, Barnard+ 2014. [Available here](#)



Galaxy Zoo: Are Bars Responsible for the Feeding of Active Galactic Nuclei at $0.2 < z < 1.0$?, Cheung+ 2014. [Available here](#)



Galaxy Zoo: The Ultraviolet Attenuation Law in Backlit Spiral Galaxies, Keel+ 2014. [Available here](#)



HST Imaging of Fading AGN Candidates I: Host-Galaxy Properties and Origin of the Extended Gas, Keel+ 2014. [Available here](#)



Galaxy Zoo: an independent look at the evolution of the bar fraction over the last eight billion years from HST-COSMOS, Melvin+ 2014. [Available here](#)



The green valley is a red herring: Galaxy Zoo reveals two evolutionary pathways towards quenching of star formation in early- and late-type galaxies, Schawinski+ 2014. [Available here](#)



Galaxy Zoo: CANDELS barred discs and bar fractions, Simmons+ 2014. [Available here](#)

citizen scientists can:

- * analyze massive data sets
- * perform independent discovery

this makes your data more valuable!

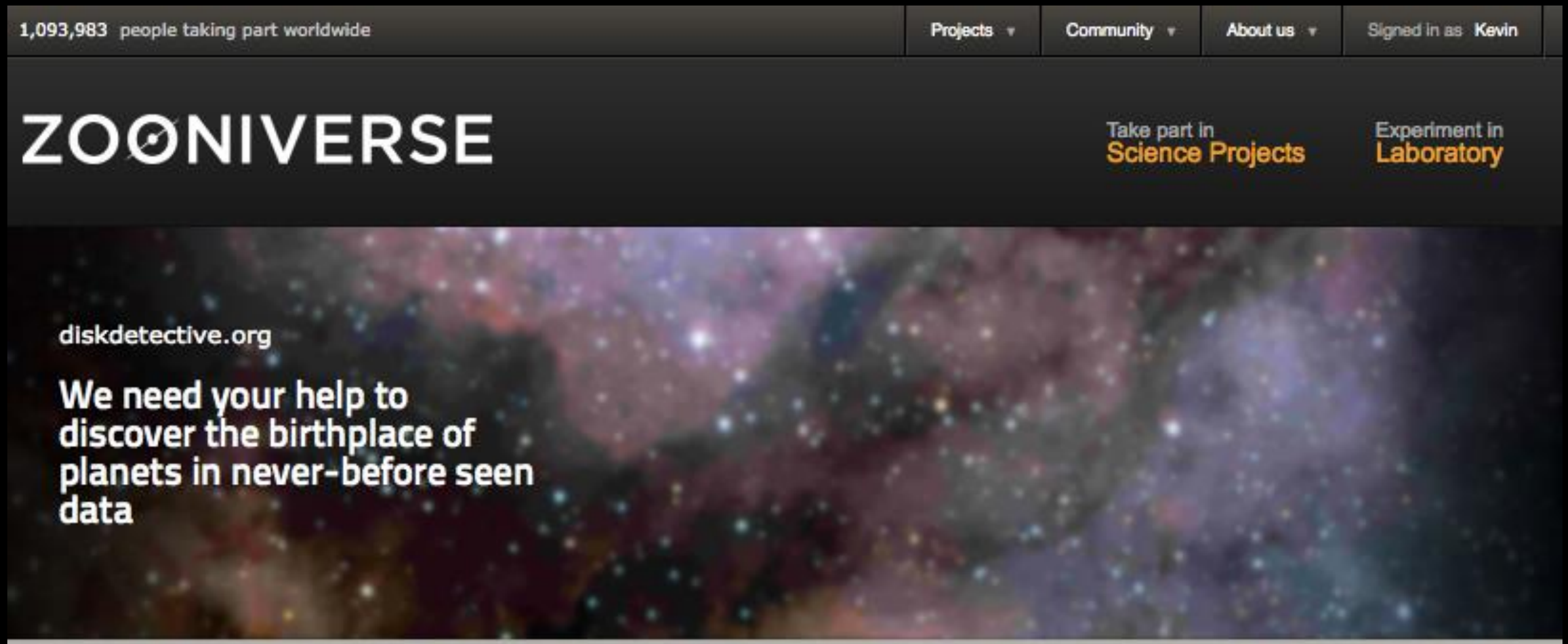
ground rules:

1. tell the citizen scientists what the research is about
2. treat citizen scientists as collaborators
3. do not waste citizen scientists' time

having your citizens involved
in science:


1. makes people more engaged with science
2. makes people more scientifically literate

we learned from galaxyzoo.org



1.5M+ citizen scientists take part in zooniverse.org projects

Panoptes



Projects

About

Talk


Collect


Daily Zooniverse

Blog

BUILD A PROJECT

Kevin





PROJECT #895

Project details

Research

Results

FAQ

Education

Collaborators

Media

Visibility

Talk

Data Exports

WORKFLOWS

New workflow

SUBJECT SETS

New subject set

Delete this project

Input the basic information about your project, and set up its home page.

Avatar

Drop an avatar image here

Pick a logo to represent your project. To add an image, either drag and drop or click to open your file viewer. For best results, use a square image of not more than 50 KB.

NAME

Untitled project 2015-09-15T09:47:34.754Z


The project name is the first thing people will see about the project, and it will show up in the project URL. Try to keep it short and sweet. Your project's URL is </projects/kevin/untitled-project-2015-09-15t09-47-34-dot-754z>

DESCRIPTION

Description of project

This should be a one-line call to action for your project that displays on your landing page. Some volunteers will decide whether to try your project based on reading this, so try to write short text that will make people actively want to join your project.

INTRODUCTION



Add a brief introduction to get people interested in your project. This will display on your landing page.

WORKFLOW DESCRIPTION

Add text here when you have multiple workflows and want to help your volunteers decide which one they should do.

TAGS

Tags:

Enter a list of tags separated by commas to help users find your project.

External links

Adding an external link will make it appear as a new tab alongside the science, classify, and talk tabs.

Label URL

Add a link

Background image

Drop a background image here

This image will be the background for all of your project pages, including your project's front page. To add an image, either drag and drop or left click to open your file viewer. For best results, use good quality images no more than 256 KB.

☐ Volunteers can choose which workflow they work on

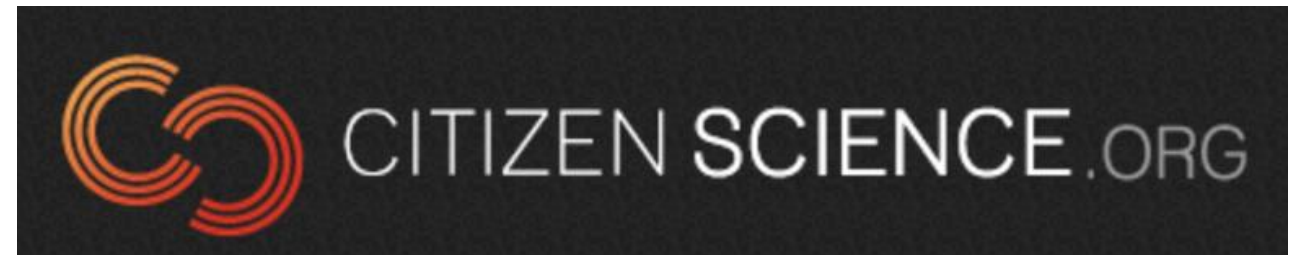
If you have multiple workflows, check this to let volunteers select which workflow they want to to work on; otherwise, they'll be served randomly.

challenges facing citizen science


citizen science becomes “outreach”

machine learning


academic professionalization



aggregation

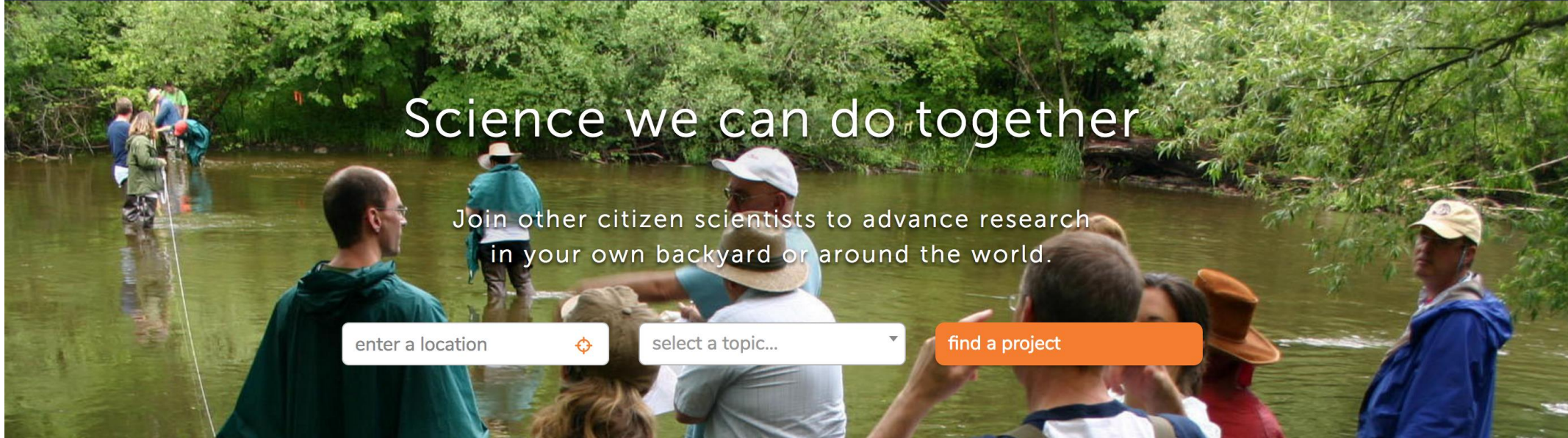


Science we can do together.




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[My Account](#) [Project Finder](#) [Event Finder](#)



Science we can do together

Join other citizen scientists to advance research in your own backyard or around the world.



[find a project](#)



DE FR

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[AKTUELL](#)

[ÜBER UNS / KONTAKT](#)

Was ist Citizen Science?

Citizen Science wird immer mehr als ein Sammelbegriff für die vielen Herangehensweisen verwendet, wie Freiwillige in der Wissenschaft beteiligt werden.

[mehr Infos](#)




Projekte

Jetzt eigene Projekte eingeben!

[WEITERLESEN](#)

[«](#) [01](#) [02](#) [03](#) [»](#) [Pause](#)

“Blüemlisammeln”



Das nationale Daten- und Informationszentrum der Schweizer Flora

Kontakt
Events
Downloads
Info Species

Über uns
Offene Stellen
Medien
Links

FR IT

[FLORA](#) [LEBENSÄRÄUME](#) [KURSE & PROJEKTE](#) [DATEN BEZIEHEN](#) [DATEN MELDEN](#) [Q](#)

Kurse & Projekte

Projekte

- Mission Flora
 - Mission Entdecken
 - Missionen zur Auswahl
- Mission Inventar
 - Missionen zur Auswahl



Regionale Inventare

- Regio Flora
- Citizen Science



Kurse

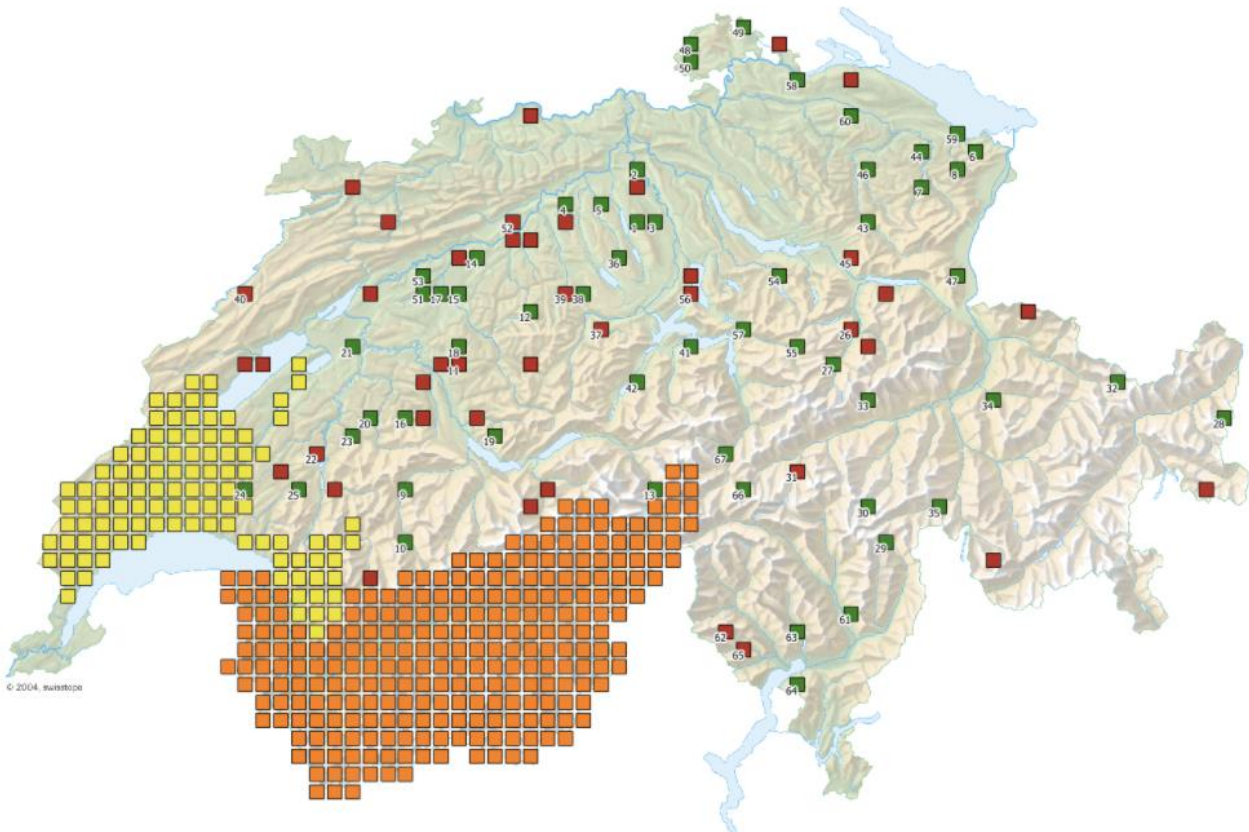
Zertifizierung

Missionen zur Auswahl

: Diese Mission Inventar ist verfügbar. Melden Sie sich an (siehe unten) und beginnen Sie mit dem Inventar.
: Diese Mission Inventar ist bereits vergeben.

Zur Anmeldung senden Sie bitte eine E-Mail mit der **Nummer der "Mission Inventar"**, an der Sie interessiert sind, an:
info[a.t]infoflora.ch (E-mail: [a.t] durch @ ersetzen).

 und : Regionalinventar 5x5 km. **Nehmen Sie direkt Kontakt mit dem/der jeweiligen Regional Koordinator/in auf.**



© 2004, swissflora

how many of these projects would be funded
by a research funding agency?

how many of these projects will result in peer
reviewed studies?

is citizen science just outreach?

do we even still need the humans?





Universität
Zürich^{UZH}

ETH

Eidgenössische Technische Hochschule Zürich
Swiss Federal Institute of Technology Zurich

The Competence Center - Citizen Science



CC-CS
zurich

Development plan and budget 2017–2020

Version current: 16 November 2016

Board of Directors:

Prof. Dr. Abraham Bernstein

Prof. Dr. Dirk Helbing

Prof. Dr. Mike Martin

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the future: two priorities

citizen science cyborgs

health & human data